Contents Volume 114

Geochronology and palaeomagnetism of a late Proterozoic island arc terrane from the Red Sea Hills, northeast Sudan
T. Reischmann, V. Bachtadse, A. Kröner and P. Layer 1
New Cretaceous paleomagnetic poles from the Tarim Basin, Northwestern China
Y. Chen, J.-P. Cogné and V. Courtillot 17
Relative geomagnetic intensity of the field during the last 140 ka
L. Meynadier, J.-P. Valet, R. Weeks, N.J. Shackleton and V.L. Hagee 39
The upper and lower Thvera sedimentary geomagnetic reversal records from southern Sicily
A.A.M. Van Hoof and C.G. Langereis 59
Chemical evolution of rare earth elements: fractionation between colloidal and solution phases of filtered river water
E.R. Sholkovitz 77
A model for ^{137}Cs and other tracers in lake sediments considering particle size and the inverse solution
E. Fukumori, E.R. Christensen and R.J. Klein 85
Continental inputs of beryllium to the oceans
E.T. Brown, C.I. Measures, J.M. Edmond, D.L. Bourlès, G.M. Raisbeck and F. Yiou 101
Prograde and retrograde thermal histories from the central Swiss Alps
D. Vance and R.K. O'Nions 113
Contact metamorphism of layered carbonate–shale sequences in the Oslo Rift. II: Migration of isotopic and reaction fronts around cooling plutons
B. Jamtveit, H.F. Grorud and K. Bucher-Nurminen 131
Th–Sr isotopic relationships in MORB
K.H. Rubin and J.D. Macdougall 149
Shock effects of the Leoville CV carbonaceous chondrite: a transmission electron microscope study
T. Nakamura, K. Tomeoka and H. Takeda 159
Equilibrium dihedral angles in the system quartz–CO_2–H_2O–NaCl at 800°C and 1–15 kbar: the effects of pressure and fluid composition on the permeability of quartzites
M.B. Holness 171
Sound velocities of MgO to very high compression
A. Chopelas 185
Fossil plume head beneath the Arabian lithosphere?
M. Stein and A.W. Hofmann 193

Reply Paper

A reply to comments by W.M. Buhay on "Increase of radiation sensitivity of ESR centers by faulting and criteria of fault dates"
T. Fukuchi 211

Major episodes of geologic change: correlations, time structure and possible causes
M.R. Rampino and K. Caldeira 215
Magnetic polarity stratigraphy of Inchasi: a Pliocene mammal-bearing locality from the Bolivian Andes deposited just before the Great American Interchange
B.J. MacFadden, F. Anaya and J. Argollo 229
Sediment-laden gravity currents with reversing buoyancy
R.S.J. Sparks, R.T. Bonnecaze, H.E. Huppert, J.R. Lister, M.A. Hallworth, H. Mader and J. Phillips 243
Sedimentation and mixing of a turbulent fluid suspension: a laboratory study
H.E. Huppert, J.S. Turner and M.A. Hallworth 259
Quantitative approach to physical and chemical gold mobility in equatorial rainforest lateritic environment
F. Colin, P. Vieillard and J.P. Ambrosi 269
Botryoidal hematite from the Schwarzwald (Germany): heterogeneous uranium distributions and their bearing on the helium dating method
R.S. Wernicke and H.J. Lippolt 287
Dynamic disequilibrium melting model with porous flow and diffusion-controlled chemical equilibration
H. Iwamori 301

Olivine flotation in mantle melt
C.B. Agee and D. Walker 315
Mantle neon and atmospheric contamination
K.A. Farley and R.J. Poreda 325
Anomalous neon and xenon in an Archaean anorthosite from West Greenland
S.-i. Azuma, M. Ozima and H. Hiyagon 341
Re-Os isotope systematics of HIMU and EMII oceanic island basalts from the south Pacific Ocean
E.H. Hauri and S.R. Hart 353
Molecular dynamics study of the transport properties of perovskite melts under high temperature and pressure conditions
E.A. Wasserman, D.A. Yuen and J.R. Rustad 373

Express Letters

Quantitative estimates of pedogenic ferromagnetic mineral formation in Chinese loess and palaeoclimatic implications
F. Heller, C.D. Shen, J. Beer, X.M. Liu, T.S. Liu, A. Bronger, M. Suter and G. Bonani 385
Evidence of fissiogenic Cs estimated from Ba isotopic deviations in an Oklo natural reactor zone
H. Hidaka, P. Holliger and A. Masuda 391

Response of the lithosphere to in-plane force variations
G.D. Karner, N.W. Driscoll and J.K. Weissel 397
On the timing relationship between fluid production and metamorphism in metamorphic piles: some implications for the origin of post-metamorphic gold mineralisation
K. Stüwe, T.M. Will and S. Zhou 417
Fluid inclusion and mineral isotopic compositions (H-C-O) in eclogitic rocks as tracers of local fluid migration during high-pressure metamorphism
S. Nadeau, P. Philippot and F. Pineau 431
Radial cracks around α-quartz inclusions in almandine: constraints on the metamorphic history of the Oman mountains
A.S. Wendt, P. D'Arco, B. Goffé and R. Oberhänsli 449
Carbonatite metasomatism in the northern Tanzanian mantle: petrographic and geochemical characteristics
R.L. Rudnick, W.F. McDonough and B.W. Chappell 463
Partial melting of dry peridotites at high pressures: Determination of compositions of melts segregated from peridotite using aggregates of diamond
K. Hirose and I. Kushiro 477
High field strength and transition element systematics in island arc and back-arc basin basalts: evidence for multi-phase melt extraction and a depleted mantle wedge
J. Woodhead, S. Eggins and J. Gamble 491
On the variations of flow rate in non-explosive lava eruptions
M.V. Stasiuk, C. Jaupart and R.S.J. Sparks 505
Unusual geochemistry of hydrothermal vents on submarine arc volcanoes: Kasuga Seamounts, Northern Mariana Arc
G.M. McMurtry, P.N. Sedwick, P. Fryer, D.L. VonderHaar and H.-W. Yeh 517
Holocene sea-level determination relative to the Australian continent: U/Th (TIMS) and ^{14}C (AMS) dating of coral cores from the Abrolhos Islands
A. Eisenhauer, G.J. Wasserburg, J.H. Chen, G. Bonani, L.B. Collins, Z.R. Zhu and K.H. Wyrwoll 529

Express Letter

Pre- and post-bomb radiocarbon in fish otoliths
J.M. Kalish 549

Errata

Trace and minor element partitioning between garnet and amphibole and carbonatitic melt
R.J. Sweeney, D.H. Green and S.H. Sie 555
Contact metamorphism of layered carbonate–shale sequences in the Oslo Rift. II: Migration of isotopic and reaction fronts around cooling plutons
B. Jamtveit, H.F. Grorud and K. Bucher-Nurminen 557

Author Index Volume 114 559